

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1-39. (Canceled)

40. (Currently Amended) An alarm for detecting radiation and/or pollutants having:

a housing means;

an alarm circuit including detection means (~~DET1~~) for detecting said radiation and/or pollutants;

first electrical connection means connectable to one of an external live power cable of a main circuit and a ~~live~~-light side of a switch for a lighting circuit for supplying external power to said alarm circuit;

second electrical connection means for connection to said ~~live~~-light side of said switch for the lighting circuit;

circuit means connecting said first electrical connection means to said alarm circuit for supplying said external power to said alarm circuit;

a first switch means mounted on said alarm housing and actuatable by a user to generate a respective pulse for each actuation thereby;

and control means responsive to receipt of a preselected number of pulses over a preselected time period to apply a preset control signal to said alarm circuit;

wherein said alarm circuit is responsive to said preset control signal to reset or test said alarm in dependence on said preset control signal, and

wherein said first and second electrical connection means are separate devices.

41-43. (Canceled)

44. (Previously Presented) An alarm as claimed in claim 40 wherein said first switch means is mounted remote from said alarm housing.

45. (Currently Amended) An alarm as claimed in claim 40 wherein said first switch means is adapted for connection to said ~~live~~light side of said switch for said lighting circuit.

46. (Previously Presented) An alarm as claimed in claim 40 wherein:
said second electrical connection means is operable to receive pulses caused by user actuation of said first switch means between its on and off states and apply said pulses to said control means thereby to cause a preset control signal to be applied to said alarm circuit in response to generation of said preselected number of pulses over said preselected time period.

47. (Previously Presented) An alarm as claimed in claim 40 further comprising switch means for an external light source and actuatable in response to generation of a preselected control signal to energise said light source.

48. (Previously Presented) An alarm as claimed in claim 40 further comprising a relay and a light source wherein said relay is actuatable in response to generation of a preselected control signal to energise said light source.

49. (Previously Presented) An alarm as claimed in claim 40 wherein when said preselected number of pulses over said preselected time period is one, said control means is operable to apply a preset control signal to said alarm circuit thereby to reset said alarm.

50. (Previously Presented) An alarm as claimed in claim 40 wherein when said preselected number of pulses over said preselected time period is one, said control means is operable to apply a preset control signal to said alarm circuit thereby to test said alarm.

51. (Previously Presented) An alarm as claimed in claim 40 wherein when said preselected number of pulses over said preselected time period is two, said control means is operable to apply a preset control signal to said alarm circuit thereby to test said alarm.

52. (Previously Presented) An alarm as claimed in claim 50 wherein when said preselected number of pulses over said preselected time period is two, said control means is operable to apply a preset control signal to said alarm circuit thereby to reset said alarm.

53. (Previously Presented) An alarm circuit as claimed in claim 40 wherein said alarm circuit comprises means for reducing the sensitivity of said detection means.

54. (Previously Presented) An alarm as claimed in claim 53 wherein said means for reducing the sensitivity of said detection means is operable in response to generation of a reset control signal by said control means to reduce the sensitivity of said detection means for a preselected time period thereby to reset said alarm.

55. (Previously Presented) An alarm circuit as claimed in claim 40 wherein said alarm circuit comprises means for increasing the sensitivity of said detection means.

56. (Previously Presented) An alarm as claimed in claim 55 wherein said means for increasing the sensitivity of said detection means is operable in response to generation of a test control signal by said control means to increase the sensitivity of said detection means for a preselected time period thereby to test said alarm.

57. (Currently Amended) An alarm as claimed in claim 40 further comprising:
a battery ~~(B1)~~ for supplying power to said alarm.

58. (Previously Presented) An alarm as claimed in claim 57 further comprising:
a charging circuit including said first electrical connection means for supplying power to a power rail for said alarm circuit and for charging said battery.

59. (Previously Presented) An alarm as claimed in claim 57 further comprising an isolating means for selectably electrically disconnecting said battery from said alarm circuit thereby to minimise leakage from said battery when said alarm is inactive.

60. (Previously Presented) An alarm as claimed in claim 59 wherein:
said isolating means comprises a second switch means in said power rail switchable between a first, conducting state connecting said battery to said alarm and a second, non-conduction state disconnecting said battery from said alarm.

61. (Previously Presented) An alarm as claimed in claim 60 wherein said charging circuit comprises a third switch means switchable between a first, conducting state and a second, non-conducting state in dependence on the voltage on said power rail;
and wherein:

when said third switch means is in said first, conducting state said third switch means is operable to retain said isolating second switch means in its conducting state;

and when said third switch means is in said second, non-conducting state the state of said third switch means is dependent on the voltage on said power rail such that said second switch means is non-conducting in response to said voltage on said power rail being below a preselected value indicating a low battery charge, thereby to disarm said alarm during charging of said battery.

62. (Previously Presented) An alarm as claimed in claim 61 further comprising a disconnect means actuatable to switch said switch means into its non-conducting state thereby disabling said switch means and preventing actuation of said alarm.

63. (Previously Presented) An alarm as claimed in claim 62 wherein said disconnect means comprises button means movable between a first, OFF position wherein said switch means is rendered non-conducting and a second, ON position wherein said switch means is enabled.

64. (Previously Presented) An alarm as claimed in claim 62 wherein:

said switch means is a multi electrode semiconductor device having a control electrode for controlling conduction between further electrodes thereof;
and said button means is movable into its first, OFF position to vary the potential on said control gate means thereby to render said switch means non-conducting.

65. (Previously Presented) An alarm as claimed in claim 63 wherein:

said housing comprises:

a first backing plate for mounting on a surface;
a second backing plate detachably mountable on said first backing plate;
and a cover means for covering said backing plates;

and wherein the arrangement of said disconnect means is such that engagement of said second backing plate on said first backing plate moves said disconnect means into its second, ON position thereby to enable said switch means and disengagement of said second backing plate from said first backing plate moves said disconnect means into its first, OFF position thereby to disable said switch means.

66. (Previously Presented) An alarm as claimed in claim 59 further comprising indicator means operable in response to power on said voltage rail downstream of said isolating means to indicate that said alarm is enabled.

67. (Previously Presented) The alarm of claim 40, further comprising:

switch means for a light source, said switch means being actuatable in response to triggering of said alarm to energise said light source.

68. (Previously Presented) The alarm of claim 67 wherein said switch means comprises a relay and said light source is external to said alarm.

69. (Previously Presented) The alarm of claim 67 wherein said light source is mounted in said alarm.

70. (Withdrawn) An alarm for detecting radiation and/or pollutants such as smoke, carbon monoxide or the like having:
- a housing means;
 - an alarm circuit including detection means (DET1) for detecting said radiation and/or pollutants;
 - a battery (B1) for supplying power to said;
 - and an isolating means for selectably electrically disconnecting said battery from said alarm thereby to minimise leakage from said battery when said alarm is inactive.
71. (Withdrawn) An alarm as claimed in claim 70 further comprising:
- first electrical connection means (PL1, PL2) connectable to an external power supply for supplying power to said alarm circuit;
 - and a charging circuit including said first electrical connection means (PL1, PL2) for supplying power to a power rail for said alarm and for charging said battery.
72. (Withdrawn) An alarm as claimed in claim 70 wherein:
- said isolating means comprises a second switch means in said power rail switchable between a first, conducting state connecting said battery (B1) to said alarm and a second, non-conduction state disconnecting said battery from said alarm.
73. (Withdrawn) An alarm as claimed in claim 71 wherein said charging circuit comprises a third switch means (TR5) switchable between a first, conducting state and a second, non-conducting state in dependence on the voltage on said power rail;
- and wherein:
 - when said third switch means (TR5) is in said first, conducting state said third switch means (TR5) is operable to retain said isolating second switch means (TR3) in its conducting state;

and when said third switch means (TR5) is in said second, non-conducting state the state of said third switch means (TR5) is dependent on the voltage on said power rail such that said second switch means (TR3) is non-conducting in response to said voltage on said power rail being below a preselected value indicating a low battery charge, thereby to disarm said alarm during charging of said battery (B1).

74. (Withdrawn) An alarm as claimed in claim 72 further comprising a disconnect means actuatable to switch said switch means (TR3) into its non-conducting state thereby disabling said switch means and preventing actuation of said alarm.

75. (Withdrawn) An alarm as claimed in claim 74 wherein said disconnect means comprises button means movable between a first, OFF position wherein said switch means (TR3) is rendered non-conducting and a second, ON position wherein said switch means (TR3) is enabled.

76. (Withdrawn) An alarm as claimed in claim 74 wherein:
said switch means (TR3) is a multi electrode semiconductor device having a control electrode for controlling conduction between further electrodes thereof;
and said button means is movable into its first, OFF position to vary the potential on said control gate means thereby to render said switch means (TR3) non-conducting.

77. (Withdrawn) An alarm as claimed in claim 75 wherein:
said housing comprises:
a first backing plate for mounting on a surface;
a second backing plate detachably mountable on said first backing plate;
and a cover means for covering said backing plates;
and wherein the arrangement of said disconnect means is such that
engagement of said second backing plate on said first backing plate moves said disconnect means into its second, ON position thereby to enable said switch means (TR3) and

disengagement of said second backing plate from said first backing plate moves said disconnect means into its first, OFF position thereby to disable said switch means (TR3).

78. (Withdrawn) An alarm as claimed in claim 71 further comprising indicator means (LED1) operable in response to power on said voltage rail downstream of said isolating means to indicate that said alarm is enabled.

79. (Currently Amended) An alarm as claimed in claim 40 wherein:
when said first or second electrical connection means is connected to said ~~live~~ light side of said light switch for the lighting circuit said second electrical connection means is operable to receive pulses caused by user actuation of said light switch between its on and off states and apply said pulses to said control means thereby to cause a preset control signal to be applied to said alarm circuit in response to generation of said preselected number of pulses over said preselected time period.